

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1312-17
<b>FROM</b>	Dianne Theriault	<b>SHIFT:</b>	0630 to 1645
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<b>DATE</b>	15 <sup>th</sup> May, 2009	<b>STPA NO.</b>	<b>CO2-NSL-0048</b>

**SUBJECT: 14<sup>th</sup> May, 2009 Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Tar Cell, Sysco Site  
FINAL REPORT**

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Attached is a summary of Real-time particulate (as PM<sub>10</sub>) results for air monitoring performed on the 14<sup>th</sup> of May, 2009. Donald MacIsaac and Keith Neville of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH) performed all air monitoring activities.

Weather conditions on the day of sampling:

- Mainly sunny
- Temperature: approximately 19°C
- Wind Direction: Southwest to West to Southwest

**Comments:** *ALL-TECH was on-Site at 0630 and sampling began as soon as there was site activity. Air monitoring was performed during SLR's construction activities.*

Two exceedances of the Site Action Level of 155 µg/m<sup>3</sup> were measured at the downwind location; the first at 1530 hours was measured at 180 µg/m<sup>3</sup> and the second at 1545 hours was measured at 272 µg/m<sup>3</sup>. They were both attributed to heavy dust from the site and the road leading to the site. STPA, ADI and NS Lands were immediately informed of these exceedances.

Upwind measurements of PM<sub>10</sub> were below the established Site Action Level for this parameter of 155 µg/m<sup>3</sup>.

All downwind and upwind measurements of Total Volatile Organic Compounds (TVOC) were below the established Site Action Level for this parameter of 0.66 ppm. Each measurement is the average of a 15 minute sample. A minimum of 2 samples were taken downwind and 1 sample upwind every hour. All measurements were found to be below the detection limit of the instrument. Levels above detection limit will be noted in the table below.

Due to operational criteria, during periods of precipitation (snow and rain) and high humidity, TVOC sampling is halted and resumes after the precipitation has ended.

This report has been prepared by Donald MacIsaac and reviewed by Dianne Theriault. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



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Dianne Theriault, B.Tech  
Environmental Technologist  
**ALL-TECH Environmental Services Cape Breton Ltd.**

Copied via e-mail:

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**Real-time Airborne PM<sub>10</sub> Concentration Results**  
**Sydney Tar Ponds Agency – Tar Cell, Sysco Site**  
**14<sup>th</sup> May, 2009**

<b>Sample No. &amp; Air Monitoring Location</b>	<b>Time of Day</b>	<b>PM<sub>10</sub> Action Level (µg/m<sup>3</sup>)</b>	<b>Average Result (µg/m<sup>3</sup>)</b>	<b>Wind Direction</b>	<b>Relative Position</b>	<b>Description of Activity</b>	<b>Observations that may affect sample</b>
1 150m south of old incinerator	0700	155	21	Southwest	Downwind	Dump trucks entering and leaving site	No observations seen to affect sampling integrity
2 80m North of Ferry Street rail crossing	0705	155	11	Southwest	Upwind	Background	No observations seen to affect sampling integrity
3 150m south of old incinerator	0745	155	46	Southwest	Downwind	Dump trucks entering and leaving site	No observations seen to affect sampling integrity
4 80m North of Ferry Street rail crossing	0800	155	12	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 150m south of old incinerator	0800	155	41	Southwest	Downwind	Dump trucks entering and leaving site	No observations seen to affect sampling integrity
6 150m south of old incinerator	0830	155	32	Southwest	Downwind	Dump trucks entering and leaving site	No observations seen to affect sampling integrity

<b>Sample No. &amp; Air Monitoring Location</b>	<b>Time of Day</b>	<b>PM<sub>10</sub> Action Level (µg/m<sup>3</sup>)</b>	<b>Average Result (µg/m<sup>3</sup>)</b>	<b>Wind Direction</b>	<b>Relative Position</b>	<b>Description of Activity</b>	<b>Observations that may affect sample</b>
7 80m North of Ferry Street rail crossing	0900	155	15	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 150m south of old incinerator	0900	155	28	Southwest	Downwind	Dump trucks entering and leaving site	No observations seen to affect sampling integrity
9 150m south of old incinerator	0920	155	21	Southwest	Downwind	Dump trucks entering and leaving site	No observations seen to affect sampling integrity
10 120m East of railway maintenance shop	1000	155	13	West	Upwind	Background	No observations seen to affect sampling integrity
11 50m South of weigh station	1000	155	15	West	Downwind	Excavator moving material	No observations seen to affect sampling integrity
12 50m South of weigh station	1040	155	18	West	Downwind	Excavator moving material	No observations seen to affect sampling integrity
13 120m East of railway maintenance shop	1100	155	10	West	Upwind	Background	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM <sub>10</sub> Action Level (µg/m <sup>3</sup> )	Average Result (µg/m <sup>3</sup> )	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
14 50m South of weigh station	1100	155	18	West	Downwind	Excavator moving materials	No observations seen to affect sampling integrity
15 50m South of weigh station	1125	155	25	West	Downwind	Excavator moving materials	No observations seen to affect sampling integrity
16 80m North of Ferry Street rail crossing	1200	155	19	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 150m South of old incinerator	1200	155	78	Southwest	Downwind	Dump trucks entering and leaving site	Visible dust from site and site road
18 150m South of old incinerator	1220	155	97	Southwest	Downwind	Dump trucks entering and leaving site	Visible dust from site and site road
19 80m North of Ferry Street rail crossing	1300	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 150m South of old incinerator	1300	155	62	Southwest	Downwind	Dump trucks entering and leaving site	Visible dust from site and site road

Sample No. & Air Monitoring Location	Time of Day	PM <sub>10</sub> Action Level (µg/m <sup>3</sup> )	Average Result (µg/m <sup>3</sup> )	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
21 150m South of old incinerator	1325	155	40	Southwest	Downwind	Dump trucks entering and leaving site	No observations seen to affect sampling integrity
22 80m North of Ferry Street rail crossing	1400	155	10	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 150m South of old incinerator	1400	155	111	Southwest	Downwind	Dump trucks entering and leaving site	Visible dust from site and site road
24 80m North of Ferry Street rail crossing	1425	155	11	Southwest	Upwind	Background	No observations seen to affect sampling integrity
25 150m South of old incinerator	1425	155	100	Southwest	Downwind	Dump trucks entering and leaving site	Visible dust from site and site road
26 150m South of old incinerator	1440	155	148	Southwest	Downwind	Dump trucks entering and leaving site	Visible dust from site and site road
27 80m North of Ferry Street rail crossing	1445	155	12	Southwest	Upwind	Background	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM <sub>10</sub> Action Level (µg/m <sup>3</sup> )	Average Result (µg/m <sup>3</sup> )	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
28 80m North of Ferry Street rail crossing	1500	155	11	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 150m South of old incinerator	1500	155	113	Southwest	Downwind	Dump trucks entering and leaving site	Visible dust from site and site road
30 80m North of Ferry Street rail crossing	1515	155	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
31 150m South of old incinerator	1515	155	130	Southwest	Downwind	Dump trucks entering and leaving site	Visible dust from site and site road
32 150m South of old incinerator	1530	155	<b>180</b>	Southwest	Downwind	Dump trucks entering and leaving site	Visible dust from site and site road
33 80m North of Ferry Street rail crossing	1535	155	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
34 150m South of old incinerator	1545	155	<b>272</b>	Southwest	Downwind	Dump trucks entering and leaving site	Visible dust from site and site road

<b>Sample No. &amp; Air Monitoring Location</b>	<b>Time of Day</b>	<b>PM<sub>10</sub> Action Level (µg/m<sup>3</sup>)</b>	<b>Average Result (µg/m<sup>3</sup>)</b>	<b>Wind Direction</b>	<b>Relative Position</b>	<b>Description of Activity</b>	<b>Observations that may affect sample</b>
35 80m North of Ferry Street rail crossing	1600	155	37	Southwest	Upwind	Background	No observations seen to affect sampling integrity
36 150m South of old incinerator	1600	155	83	Southwest	Downwind	No activity observed on site	Visible dust from site and site road
37 150m South of old incinerator	1615	155	59	Southwest	Downwind	No activity observed on site	Visible dust from site and site road
38 80m North of Ferry Street rail crossing	1620	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
39 80m North of Ferry Street rail crossing	1640	155	30	Southwest	Upwind	Background	No observations seen to affect sampling integrity
40 150m South of old incinerator	1640	155	51	Southwest	Downwind	No activity observed on site	Visible dust from site and site road



Sample No. & Air Monitoring Location	Time of Day	PM10 Action Level (µg/m3)	Average Result (µg/m3)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
41 80m North of Ferry Street rail crossing	1700	155	15	Southwest	Upwind	Background	No observations seen to affect sampling integrity
42 150m South of old incinerator	1700	155	146	Southwest	Downwind	No activity observed on site	Visible dust from site and site road

**Notes:** Air sample duration for each monitoring event was 15 minutes.

### Comparison of Downwind Daily Results for Dust Budget

Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
150m South of old incinerator	0700 to 0759	34	990
150m South of old incinerator	0800 to 0859	71	990
150m South of old incinerator	0900 to 0959	96	990
50m south of weigh station	1000 to 1059	113	990
50m south of weigh station	1100 to 1159	135	990
150m South of old incinerator	1200 to 1259	223	990
150m South of old incinerator	1300 to 1359	274	990
150m South of old incinerator	1400 to 1459	394	990
150m South of old incinerator	1500 to 1559	568	990
150m South of old incinerator	1600 to 1659	632	990
150m South of old incinerator	1700 to 1759	777	990

### VOC Monitoring

Monitoring Method	Yes	No
Sustained Odours Observed		•
P.I.D. Required	•	